

**§ 37.6 Chest roentgenographic examinations conducted by the Secretary.**

(a) The Secretary will give chest roentgenograms or make arrangements with an appropriate person, agency, or institution to give the chest roentgenograms and with "A" or "B" readers to interpret the roentgenograms required under this subpart in the locality where the miner resides, at the mine, or at a medical facility easily accessible to a mining community or mining communities, under the following circumstances:

(1) Where, in the judgment of the Secretary, due to the lack of adequate medical or other necessary facilities or personnel at the mine or in the locality where the miner resides, the required roentgenographic examination cannot be given.

(2) Where the operator has not submitted an approvable plan.

(3) Where, after commencement of an operator's program pursuant to an approved plan and after notice to the operator of his failure to follow the approved plan and, after allowing 15 calendar days to bring the program into compliance, the Secretary determines and notifies the operator in writing that the operator's program still fails to comply with the approved plan.

(b) The operator of the mine shall reimburse the Secretary or other person, agency, or institution as the Secretary may direct, for the cost of conducting each examination made in accordance with this section.

(c) All examinations given or arranged by the Secretary will comply with the time requirements of § 37.3. Whenever the Secretary gives or arranges for the examinations of miners at a time, a written notice of the arrangements will be sent to the operator who shall post the notice on the mine bulletin board.

(d) Operators of mines selected by ALOSH to participate in the National Study of Coal Workers' Pneumoconiosis (an epidemiological study of respiratory diseases in coal miners) and who agree to cooperate will have all their miners afforded the opportunity to have a chest roentgenogram required hereunder at no cost to the operator. For future examinations and for mandatory examinations each par-

ticipating operator shall submit an approvable plan.

**§ 37.7 Transfer of affected miner to less dusty area.**

(a) Any miner who, in the judgment of the Secretary based upon the interpretation of one or more of the miner's chest roentgenograms, shows category 1 (1/0, 1/1, 1/2), category 2 (2/1, 2/2, 2/3), or category 3 (3/2, 3/3, 3/4) simple pneumoconioses, or complicated pneumoconioses (ILO Classification) shall be afforded the option of transferring from his or her position to another position in an area of the mine where the concentration of respirable dust in the mine atmosphere is not more than 1.0 mg/m<sup>3</sup> of air, or if such level is not attainable in the mine, to a position in the mine where the concentration of respirable dust is the lowest attainable below 2.0 mg/m<sup>3</sup> of air.

(b) Any transfer under this section shall be in accordance with the procedures specified in part 90 of title 30, Code of Federal Regulations.

[43 FR 33715, Aug. 1, 1978; 43 FR 38830, Aug. 31, 1978, as amended at 44 FR 23085, Apr. 18, 1979; 49 FR 7563, Mar. 1, 1984]

**§ 37.8 Roentgenographic examination at miner's expense.**

Any miner who wishes to obtain an examination at his or her own expense at an approved facility and to have submitted to NIOSH for him or her a complete examination may do so, provided that the examination is made no sooner than 6 months after the most recent examination of the miner submitted to ALOSH. ALOSH will provide an interpretation and report of the examinations made at the miner's expense in the same manner as if it were submitted under an operator's plan. Any change in the miner's transfer rights under the act which may result from this examination will be subject to the terms of § 37.7.

**§ 37.20 Miner identification document.**

As part of the roentgenographic examination, a miner identification document which includes an occupational history questionnaire shall be completed for each miner at the facility where the roentgenogram is made at

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the same time the chest roentgenogram required by this subpart is given.

### SPECIFICATIONS FOR PERFORMING CHEST ROENTGENOGRAPHIC EXAMINATIONS

#### § 37.40 General provisions.

(a) The chest roentgenographic examination shall be given at a convenient time and place.

(b) The chest roentgenographic examination consists of the chest roentgenogram, and a complete Roentgenographic Interpretation Form (Form CDC/NIOSH (M) 2.8), and miner identification document.

(c) A roentgenographic examination shall be made in a facility approved in accordance with § 37.42 by or under the supervision of a physician who regularly makes chest roentgenograms and who has demonstrated ability to make chest roentgenograms of a quality to best ascertain the presence of pneumoconiosis.

#### § 37.41 Chest roentgenogram specifications.

(a) Every chest roentgenogram shall be a single posteroanterior projection at full inspiration on a film being no less than 14 by 17 inches and no greater than 16 by 17 inches. The film and cassette shall be capable of being positioned both vertically and horizontally so that the chest roentgenogram will include both apices and costophrenic angles. If a miner is too large to permit the above requirements, then the projection shall include both apices with minimum loss of the costophrenic angle.

(b) Miners shall be disrobed from the waist up at the time the roentgenogram is given. The facility shall provide a dressing area and for those miners who wish to use one, the facility shall provide a clean gown. Facilities shall be heated to a comfortable temperature.

(c) Roentgenograms shall be made only with a diagnostic X-ray machine having a rotating anode tube with a maximum of a 2 mm. source (focal spot).

(d) Except as provided in paragraph (e) of this section, roentgenograms shall be made with units having generators which comply with the fol-

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lowing: (1) The generators of existing roentgenographic units acquired by the examining facility prior to July 27, 1973, shall have a minimum rating of 200 mA at 100 kVp.; (2) generators of units acquired subsequent to that date shall have a minimum rating of 300 mA at 125 kVp.

NOTE: A generator with a rating of 150 kVp. is recommended.

(e) Roentgenograms made with battery-powered mobile or portable equipment shall be made with units having a minimum rating of 100 mA at 110 kVp. at 500 Hz, or of 200 mA at 110 kVp. at 60 Hz.

(f) Capacitor discharge and field emission units may be used if the model of such units is approved by ALOSH for quality, performance, and safety. ALOSH will consider such units for approval when listed by a facility seeking approval under § 37.42 of this subpart.

(g) Roentgenograms shall be given only with equipment having a beam-limiting device which does not cause large unexposed boundaries. The beam limiting device shall provide rectangular collimation and shall be of the type described in part F of the suggested State regulations for the control of radiation or (for beam limiting devices manufactured after August 1, 1974) of the type specified in 21 CFR 1020.31. The use of such a device shall be discernible from an examination of the roentgenogram.

(h) To insure high quality chest roentgenograms:

(1) The maximum exposure time shall not exceed  $\frac{1}{20}$  of a second except that with single phase units with a rating less than 300 mA at 125 kVp. and subjects with chests over 28 cm. posteroanterior, the exposure may be increased to not more than  $\frac{1}{10}$  of a second;

(2) The source or focal spot to film distance shall be at least 6 feet;

(3) Medium speed film and medium speed intensifying screens are recommended. However, any film-screen combination, the rated "speed" of which is at least 100 and does not exceed 300, which produces roentgenograms with spatial resolution, contrast, latitude and quantum mottle